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# Skill-mix change in general practice:

## a qualitative comparison of three 'new' non-medical roles in English primary care


## Abstract

**Background**
General practice is currently facing a significant workforce challenge. Changing the general practice skill mix by introducing new non-medical roles is recommended as one solution; the literature highlights that organisational and/or operational difficulties are associated with skill-mix changes.

**Aim**
To compare how three non-medical roles were being established in general practice, understand common implementation barriers, and identify measurable impacts or unintended consequences.

**Design and setting**
In-depth qualitative comparison of three role initiatives in general practices in one area of Greater Manchester, England; that is, advanced practitioner and physician associate training schemes, and a locally commissioned practice pharmacist service.

**Method**
Semi-structured interviews and focus groups with a purposive sample of stakeholders involved in the implementation of each role initiative were conducted. Template analysis enabled the production of pre-determined and researcher-generated codes, categories, and themes.

**Results**
The final sample contained 38 stakeholders comprising training/service leads, role holders, and host practice staff. Three key themes captured participants' perspectives: purpose and place of new roles in general practice, involving unclear role definition and tension at professional boundaries; transition of new roles into general practice, involving risk management, closing training–practice gaps and managing expectations; and future of new roles in general practice, involving demonstrating impact and questions about sustainability.

**Conclusion**
This in-depth, in-context comparative study highlights that introducing new roles to general practice is not a simple process. Recognition of factors affecting the assimilation of roles may help to better align them with the goals of general practice and harness the commitment of individual practices to enable role sustainability.



**Keywords**
advanced practitioners; general practice; new roles; physician associates; pharmacists; qualitative research; skill-mix.


## INTRODUCTION

The workforce challenge facing general practice is well documented and much debated.[1–5] In response to a shortage of GPs and practice nurses set against an ageing patient population with increasingly complex needs, national workforce transformation plans are seeking to increase the use of non-medical roles to work alongside GPs in general practice.[6] The stated aim of these plans is broadly to relieve pressure on general practice to cope better with demands on service.[7] Some roles are new to general practice, for example, physician associates (PAs), others more familiar, for example, practice pharmacists (PPs), but realising this aspiration entails a greater degree of 'skill-mix' change than previously seen, that is, changing staff roles or the ways in which staff work.[8]

Changing skill mix in general practice is recommended as one way to address workforce challenges, however this strategy is often construed as a linear process involving simply filling GP gaps with non-GP health professionals.[8] Research literature highlights some of the organisational and/or operational difficulties associated with implementing new roles in primary care if insufficient attention is paid to context, such as professional boundaries and tensions, regulatory provisions, and management of skill-mix change.[8,9]

Using insights from the existing literature[9] and drawing on local service skill-mix changes (aimed at providing quality care, increased choice, improved access, and better outcomes for patients), this article presents an in-depth, in-context comparison of the implementation of three non-medical health professional roles in general practice in an area of Greater Manchester: advanced practitioners (APs) (from multiprofessional backgrounds), PAs, and PPs. Box 1 summarises the background and current evidence in relation to each of the roles. While a small body of literature has offered role-specific findings by examining some of these roles in isolation, the current study takes a comparative approach across three roles and finds broad learning for stakeholders, who may be involved in such workforce initiatives in general practice. The insights gathered can inform dialogue and decision-making in relation to general practice skill-mix changes.

This study sought to focus on the process of role implementation by qualitatively comparing the aims and priorities of role initiatives and ways of role establishment, understanding common implementation barriers, and identifying measurable impacts or unintended consequences. This comparable approach offers key transferable learning for stakeholders, such as clinicians, policymakers, training leaders, higher education institutions, GP federations, provider organisations, clinical commissioning groups (CCGs), general practice staff, and role holders or trainees, who may be involved in the introduction of such workforce initiatives.


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## How this fits in

As one solution to addressing the significant workforce challenge in general practice, health policy is promoting the introduction of 'new' non-medical roles to work alongside GPs. However, the literature has highlighted barriers to the integration of skill-mix changes in this setting. This study highlights that introducing new roles is not a simple process and identifies key factors affecting their assimilation using a comparison of three workforce initiatives. The future of new roles depends on aligning the roles to general practice goals and harnessing individual practices' commitment to enable role sustainability. Recognising and addressing the challenges involved in making these skill-mix changes, such as role definition, professional tensions, risk management, closing training–practice gaps, expectations management, and demonstrating the impact and sustainability of roles may help to clarify the purpose and place of new roles in general practice, facilitating transition to this setting and enabling future retention.

## METHOD

The present study took an in-depth broadly interpretivist qualitative approach to understanding how the three new roles were being established. A brief interview and focus group schedule (Box 2) was developed from a rapid literature review;[9] questions focused on the challenges and opportunities involved in implementation of the skill-mix initiatives and how these were being addressed.

The authors conducted a mixture of purposive and snowball sampling aimed to capture a diverse study sample. Participants were sampled purposively in terms of their professional role, such as training or service lead; trainee or practitioner or GP practice staff member, as well as their involvement in one or more new roles schemes; that is the AP, PA, and PP initiatives. Potential participants in service or training lead posts for each role initiative were first identified and invited to take part. New role trainees/practitioners and practice staff hosting them were identified and approached thereafter through snowball sampling via scheme leads. Semi-structured interviews and focus groups conducted by the researchers were audiorecorded, transcribed, anonymised, and transferred to NVivo (version 11) software. Where possible, one-to-one interviews were carried out with participants, however focus groups were held for each of the trainee practitioner groupings, that is, one for APs and one for PAs, to enable a rich exchange of views between peers undergoing the same training programmes and because role-holders were geographically co-located. Both focus groups and most interviews were carried out face-to-face in office areas on NHS premises, university rooms, or community centres. Three out of 22 interviews were conducted by telephone for the participants' convenience.

Data collection and analysis was carried out concurrently between May 2017 and May 2018. Data were explored iteratively for similarities and differences and considered jointly from the different standpoints of the entire research team (health services research; sociology; general practice; organisational analysis; and employment relations). Four broad considerations for implementing skill-mix changes, previously highlighted,[8] were used to consider data:

- role function and scope;
- management of roles;
- statutory provisions; and
- wider effects of skill-mix changes.

Template analysis enabled comparison of participant perspectives from different organisational contexts and both pre-determined and researcher-generated codes.[10] The analytical focus was on identifying overarching organisational and operational factors affecting the introduction of skill-mix changes across roles. Codes were categorised, discussed among the team, refined, and grouped into themes. Data collection was closed once the research team judged that data categories were sufficiently well developed to meet the study aims.

## RESULTS

### Participants

In total, 22 interviews and two focus groups were carried out with 38 individuals across the three schemes (see Table 1 for final study sample characteristics and method of data collection and Box 3 for a summary of how the schemes were organised). Some individuals were interviewed about their experiences of more than one scheme. Findings are presented under three key themes supported by illustrative data extracts: purpose and place; transition; and future of new roles in general practice.

### Purpose and place of new roles

There was ambiguity among stakeholders about the purpose and place of new roles in

## Box 1. Summary of background and current evidence on three professional roles: advanced practitioner, physician associate, and practice pharmacist

**Advanced practitioner**

- Traditionally nurses with master's degree in advanced practice (known as advanced nurse practitioners or ANPs) in primary care, have worked either in enhanced roles, as substitutes for doctors (or a mixture of both) and continue to be registered with their base profession in the absence of a nationally regulated competence framework.[9,11]
- The literature suggests that appropriately qualified ANPs deliver similar levels of care as doctors and are acceptable to patients. However, use of ANPs may not relieve GP workload or reduce service utilisation or costs, at least in the short term[9] and information about the role's integration in general practice is currently lacking.

**Multiprofessional AP role**

- No peer-reviewed research could be found on the multiprofessional AP role in general practice incorporating non-nursing clinicians.
- The combined professional bodies and Royal Colleges representing the health workforce have recently published a multiprofessional framework for advanced clinical practice in England to be implemented by 2020;[12] advanced training is usually over a period of 2 years.
- There is currently variation in prescribing rights among APs from different professional backgrounds; that is, nurses have the right to become IP qualified; a very recent Human Medicines Regulation amendment allowed paramedics eligibility; physiotherapists have limited prescribing rights.

**Physician associate**

- Well-established role in US but relatively new to UK with numbers growing.[11]
- Defined as '*a new healthcare professional who ... works to the medical model, with the attitudes, skills, and knowledge base to deliver holistic care and treatment within the general medical and/or general practice team under defined levels of supervision.*'[13]
- Most have a basic science degree before undergoing 2-year training programme.
- Cannot independently prescribe/order X-rays and must carry out defined duties under supervision to support doctors, working in a variety of ways to provide care in general practice, with general aim of seeing patients with acute minor illness for same-day or urgent appointments.[14]
- Limited evidence suggests PAs may provide safe and effective care that is acceptable to patients and that for less medically complex patients, compared to care from a GP, PAs may not increase return visits, tests/prescriptions ordered, or referrals made (although total costs of treatment are unknown).[9]
- PAs cannot yet practice autonomously[15] however, following a consultation period, in early 2019 the Department of Health and Social Care stated an intention to introduce statutory regulation for PAs.[16]
- Often promoted as beneficial to general practice,[17] but lack of current regulation is a barrier to integration here.[18–20]

**Practice pharmacist**

- Working in general practices for over a decade providing a variety of medicine-management related functions,[21] initially in non-patient-facing roles but more recently with a greater focus on medicines optimisation and patient-centred care.[22]
- Regulated to allow prescribing rights.
- Role increased in scale as a result of national initiatives such as NHS England's Clinical Pharmacists in General Practice programme, which has committed £100 million to fund 1500 clinical pharmacists by 2020–2021[23] and recent enthusiastic support for the role in general practice in some quarters.[24–26]
- Training to become a pharmacist involves a 4-year master's degree of pharmacy plus 1-year pre-registration experience in employment. No further qualification is required to work as a general practice pharmacist, although those in the role usually have (or are encouraged to complete) a postgraduate diploma in clinical pharmacy and the IP qualification.
- Role may aim to substitute for GPs or nurses on some tasks, and/or supplement the work of these professionals.
- Limited evidence suggests pharmacists in general practice can improve both chronic disease management for some long-term conditions and quality of prescribing, and may be acceptable to patients,[27–29] but may not reduce service utilisation or costs.[9,30]

*AP = advanced practitioner. IP = independent prescriber. PA = physician associate. PP = practice pharmacist.*

general practice, manifested in perspectives about role definition and professional boundaries and tensions.

*Role definition.* While ambiguity over role purpose and definition was faced by all three roles to a greater or lesser extent,

## Box 2. Interview and focus group schedule

**Questions**

1. Describe the primary care service before this initiative, and the arrangements in place now through the new workforce pilot or service.
2. What is your role in delivering this change?
3. What is/was required to establish this new service in your area?
4. What steps have been taken so far?
5. How have you communicated the changes to patients?
6. What challenges have been encountered?
7. How have you tackled these challenges?
8. What do you expect will be the impact of this change (for patients, staff and other parts of the health and social care system)?
9. How would you measure 'success' in this change?
10. How sustainable are the changes made in your area?

**Table 1. Characteristics of final study sample across all three schemes, *N* = 38**

| Participant role | Participants, *n* | Breakdown of participant roles | Method of data collection |
|---|---|---|---|
| Service or training leads | 9 | 5 service leads | I |
| | | 4 training leads | I |
| Trainees or practitioners in post | 18 | 8 APs (including: 5 nurses, 2 paramedics, and 1 physiotherapist) | FG1 |
| | | 4 PAs | FG2 |
| | | 6 PPs | I |
| Host GP practice staff (from 9 practices) | 11 | 5 GPs | I |
| | | 6 practice managers | I |

*AP = advanced practitioner. FG = focus groups. I = interviews. PA = physician associate. PP = practice pharmacist.*

there was agreement that both the PA and AP schemes were perceived as initiatives primarily aimed at filling GP gaps to meet patient demand, with the broader aspiration of releasing GP time. Thus these two roles were designed to provide some level of substitution for a GP:

'[PAs] *can see acute patients so it's going to take some workload off GPs ... while we can see more of the long-term or new diagnoses ... if you can't get doctors, you have to find something else.*' (GP 5, interview [I])

## Box 3. Summary of organisation of three schemes

| Role initiative | Descriptive summary |
|---|---|
| **Advanced practitioner** | • Training pilot; cohort of 14 multidisciplinary AP trainees (from experienced nursing, physiotherapy, and paramedic backgrounds)<br>• 2-year MSc in advanced practice at local university (2015–2017)<br>• Scheme jointly funded by HEE and local CCG; coordinated, supported and employed at NHS band 7 by local lead practice<br>• Trainees on placements in a single practice for 1–2 years<br>• By end of training trainees expected to:<br>  • recognise and manage a range of clinical presentations;<br>  • make differential diagnoses; and<br>  • understand and analyse results of laboratory and diagnostic tests and take appropriate action, including referral<br>• In line with national regulation, APs are not permitted to sign sickness or death certificates |
| **Physician associate** | • Training pilot; cohort of 160 trainees (nine placements offered in local area across approximately six general practice sites), majority with science background but little clinical experience<br>• 2-year postgraduate diploma or master's degree in physician associate studies at regional university medical schools (2016–2018)<br>• PA trainees employed during training by a hospital trust at NHS band 6; coordinated by HEE; local GP provider brokered introductions to potential practice placement sites; practices received flat fee for hosting with each taking a number of different students; course fees for nine trainees paid by local CCG; indemnity covered by HEE<br>• Part-time work placements in both secondary and primary care, rotating between care settings (90 hours in total in primary care comprising 8-week placement in year 1 and 6-week placement in year 2)<br>• By end of training trainees expected to:<br>  • make differential diagnoses based on history taking and physical examination;<br>  • tailor management plans to individual patients and/or carers;<br>  • maintain management plans under supervision of a physician;<br>  • perform diagnostic and therapeutic procedures and suggest medication subject to necessary legislation<br>  • request and interpret diagnostic tests; and<br>  • provide patient education, counselling or health promotion<br>• PAs are not regulated to independently prescribe or order X-rays |
| **Practice pharmacist** | • Local CCG commissioned service from 2017; led by hospital trust provider organisation; pharmacists employed by hospital trust organised into five neighbourhood teams (one NHS band 8a pharmacist leading team of band 7 staff in each neighbourhood — some IP qualified)<br>• 30 pharmacist posts planned to work across primary and secondary care (working in general practices on a sessional basis)<br>• Aim to provide practices with pharmacist cover at one pharmacist per 10 000 patient population<br>• Service intended to contribute to achievement of locally commissioned service standard for general practice focusing specifically on achieving 'medicines optimisation' domain containing standards on medicines safety and drug monitoring<br>• Service works to specified KPIs including measures on number of medicines reconciliations or medication reviews undertaken and time saved for practice staff |

*AP = advanced practitioner. CCG = clinical commissioning group. HEE = Health Education England. IP = independent prescriber. KPI = key performance indicator. PA = physician associate. PP = practice pharmacist.*

Practice staff's familiarity with similar existing roles was found to both help and hinder understanding and validation of the new roles. In comparison to PAs, the AP role was the most well understood due to familiarity with the long-established advanced nurse practitioner role. However, the training cohort hailed from a variety of professional backgrounds (nurses, paramedics, and physiotherapists) and reported working differently from one another and differently from GPs who they perceived had a more standardised professional skill set:

*'... for musculoskeletal, I know far more than the vast majority of doctors ... so* [GPs] *have the advantage in they're good at everything, whereas we wouldn't miss things on our professional path.'* (AP trainee 8, focus group 1 [FG1])

Therefore, there was some lack of clarity in how the AP role was perceived among GPs, other practice staff, and reportedly also by patients, leading to a range of different comparators to describe APs; for example, *'like an F2/reg'*, *'more than a nurse practitioner'*, *'between a nurse and a GP'*.

The PA role was the least familiar, being the newest and lacking an existing point of reference. Trainees reported that some practices were unsure how to 'place' PAs in general practice. The role was described as a *'hard sell'* in primary care where *'confidence'* in the role had yet to be established (PA training lead 3, I). The high level of ambiguity surrounding the PA role in general practice was reflected in the comparators used by participants, some of which were pejorative, for example: *'like a Year 4/5 medical student'*, *'like an F1 doctor'*, *'much below an AP'*, *'much below an F1/2'*, *'like a nurse practitioner'*, *'plastic medics'*, *'mini doctors'*, *'at the level of an HCA* [health care assistant]*'*.

The PP role was designed to both substitute for and supplement the work of GPs. The scheme aimed to target improvements in medicine safety and prescribing quality, with the associated aim of *'releasing GP time and reshaping the primary care team'* (PP service lead 2). PPs experienced better role recognition from practices due to their professional standing as pharmacists, however practice staff's familiarity with the roles of other general PPs, for example CCG medicines management pharmacists, led to confusion over the exact nature of the PP role:

*'I'd be like "that's not my role", and they'd be like "well, what is your role? Because that's what pharmacists do".'* (Neighbourhood PP1, I)

*Professional boundaries and tensions.* Tensions at the professional boundary were reported, most acutely for PAs, reflecting in part the novelty of this role. Antagonism towards the PA role from both GPs and practice nurses was reported:

*'... everybody seems to see them as a rival.'* (PA training lead 4, I)

The aspiration was that PAs would undertake a discrete range of clinical tasks in general practice, such as telephone triage, walk-ins, minor ailments, smear tests, however these overlapped with, and were often undifferentiated from, tasks carried out by other practice staff (nurse practitioners and APs). Indeed trainee PAs presented themselves as similar to APs:

*'... in terms of knowing their limitations, reporting to the GP when necessary.'* (PA trainee 3, FG2)

In contrast, AP trainees were ambivalent about the PA role, which was viewed to be lacking in autonomy:

*'PAs ... cannot discharge someone without speaking to a senior clinician first, whereas the APs can ... that's what they're going to pay you for is taking that level of responsibility ...'* (AP trainee 2, FG1)

On balance, the professional boundary challenges for APs and PPs appeared fewer than for PAs. That said, some AP trainees reported encountering concerns from GPs and nurses that *'you're taking our jobs.'* (AP Trainee 5, FG1)

**Transition to general practice**

Adapting to general practice context was demanding for stakeholders across all roles, involving challenges related to risk management, training–practice gaps, and managing expectations.

*Risk-management preparation.* Common across all three roles was the challenge of adjusting to a more autonomous style of working that required a greater level of active risk management. Both PPs and APs described being initially daunted by the unpredictable and somewhat unstandardised nature of general practice:

*'... we're very much standard-operating-procedure based ... so when a GP* [asks] *us to*

*do a project ... and we don't have a structure ... it's really difficult.'* (Neighbourhood PP 2, I)

PA trainees had experienced both general practice and secondary care placements during their training and, notably, several reported feeling less confident working in general practice, even by the end of their course. This was reportedly due to the more independent nature of the work in this setting coupled with less institutional support than might be available in the hospital sector:

*' ... at this stage, I wanted to be working in secondary care because, I don't feel comfortable enough being quite so independent* [in general practice], *straight out of medical school.'* (PA trainee 4, FG2)

Service leads and general practice staff also expressed concerns about risk management capabilities of the new roles, attributing these to the professional backgrounds and skill sets that trainees and practitioners brought into general practice. For example, APs were labelled as *'very risk averse'* (GP 3) and PPs as *'extremely structured, protocol-driven'* (PP service lead 3). For PAs, the risk to the GP was emphasised in relation to the *'huge responsibility'* GPs faced in being *'comfortable handing off patients'* (PA training lead 1, I) to PAs. The AP scheme was reportedly the only scheme that had *'developed risk management'* (AP training lead 1) as a training competency, an element which leads felt set this particular scheme apart from other AP training schemes.

*Training–practice gaps.* A key challenge was preparing trainees and practitioners to work in a clinical setting characterised by a higher level of uncertainty, pace, and responsibility than previously faced.

PA trainees were the least experienced clinically and as described above, some reported lacking in confidence to work appropriately in general practice. The 2-year course and short placement design of the PA scheme were seen to compound this:

*'...* [practices] *felt that* [PA scheme] *was a superficial level of training, so you scratched the surface and unfortunately, there wasn't that depth of knowledge or experience.'* (PA training lead 4, I)

The strain on the staff in general practice teams was a recurrent theme in relation to the unanticipated training and support needs of all three roles. One host practice for the AP pilot had withdrawn from the scheme, having been unable to dedicate the requisite time to support a trainee who was lacking in previous general practice experience. It was also felt by some that mentoring time with GPs should be formally agreed in advance rather than on an *'ad hoc'* basis (AP trainee 7).

In the case of the PP scheme, practitioners had little previous primary care experience, required additional training and mentorship, and could not *'hit the ground running'* (service lead 1). This reportedly led to frustration for practices who had not anticipated the time and support required for PPs to adapt to the general practice context.

*Expectations management.* Training–practice gaps link to the importance of managing stakeholder expectations in relation to all roles. While some stakeholders urged that PAs could not be *'an instant solution'* (PA training lead 2), a gap between practice expectations and the capabilities of some PA trainees who could not, for example *'take a history and help the practice'* (practice manager 6), was reported.

A complex communication process in the PA training initiative reportedly compounded this mismatch and *'complicated the lines of reporting'* (PA training lead 2), while the need for much greater engagement with GPs to develop the PA role for general practice and *'be comfy with the product'* (PA training lead 1) was emphasised.

In the case of the PP scheme too, limited engagement and communication between scheme leaders and practices led to a view that the reality was *'not going to meet the expectations of many practices'* (service lead 1).

In contrast, stakeholders involved in the set-up of the AP scheme reportedly adopted an extensive engagement approach towards practice recruitment to aid the embedding of the role. This involved 'matching' AP trainees' experience or skill sets to specific practices as well as planning and familiarisation meetings with staff to allow dialogue around practice needs and priorities:

*' ... we looked at* [trainees'] *backgrounds ... where they came from ... what they had done before ... and ... the* [GP] *mentors' personalities.'* (AP training lead 1, I)

Although the time required for this engagement and support was underestimated, this approach seemed to avoid any major discrepancies between

practice expectations and what the scheme could offer.

### Future of roles in general practice

Lastly, issues related to impact and sustainability of the roles centred on the common challenge of demonstrating impact, and by extension, the variation in willingness or ability of practices to retain roles in the future.

*Demonstrating impact.* While the skill-mix changes introduced locally aimed broadly to provide quality care, increased choice, improved access, and better outcomes for patients, operationalising the measurement of such outcomes was challenging. In particular, as GP workload data were not collected at scale, stakeholders were not able to demonstrate concrete evidence of the roles' effect on releasing GP time.

In the absence of reliable data, anecdotal evidence was used to gauge a sense of the impact of APs:

*'Initially, I think you go with your gut. You know when something is working. You know whether you're getting backlash from patients ... '* (Practice manager 3, I)

These difficulties also applied to PAs; however demonstrating impact here was further complicated by the ambiguity surrounding the role. If PAs saved some GP time, extra time was incurred supervising trainees making overall net savings hard to gauge. It was generally not known how to operationalise the measurement of outcomes in order to demonstrate impacts for PAs:

*'It's anecdotal — we're finding* [PA] *useful; but to actually quantify how many appointments she's ... taking off* [GPs] *involves an awful lot of time that we haven't got.'* (GP 5, I)

For PPs, measuring GP time saved was also difficult because pharmacists may, at least initially, dedicate more time to activities than a GP would:

*'So* [a GP] *will do it in 3 minutes ... because they're so busy ... it might take the pharmacist 10 or 15 minutes ... doing it properly, which we know will save time down the line.'* (PP service lead 3, I)

*Sustainability of roles.* The perceived longer-term sustainability of the three roles in general practice varied.

Differences in prescribing rights regulation and qualification affected stakeholders' perceptions of the roles' longevity. It was felt that without standardised prescribing rights for the multiprofessional AP it would be *'the end'* (AP trainee 5) for this role in general practice. For unregulated PAs, even the acquisition of prescribing rights was described *as 'a mountain to climb'* (PA training lead 1). For PPs, regulation itself was not an issue, although where practitioners were not independent prescriber qualified, it could be seen as *'a big barrier'* (PP 4) to demonstrating value to practices.

There were differences in the willingness of practices to recruit AP and PA trainees post-qualification. There was a high degree of willingness to recruit qualified APs, with 13 out of 14 trainees employed locally and a high demand for future trainees reported. By contrast, only one practice (from nine placements offered) had employed a PA. This reticence was attributed mainly to the high degree of uncertainty about PAs' contribution and impact in general practice for a relatively high level of remuneration:

*'We're asking practices to ... make a decision about a £33K a year member of staff ... there really isn't enough information ... to say this is a really useful member of staff ... they could be brilliant or they could be absolutely non-essential, and we don't know.'* (PA training lead 4, I)

Sharing PAs between practices was suggested as a way to move beyond this limitation and *'overcome some of the funding issues'* (PA training lead 1).

For PPs, feedback from practice staff on the sustainability of the service was largely positive; however practices faced the challenge of whether to rely on the service being re-commissioned by the local CCG or choosing to directly employ their own PP, which could be seen as a longer-term workforce solution:

*' ... we don't get a sense of longevity ...* [neighbourhood PPs] *are going to come and perhaps go ... so what we are recognising is we want our employed pharmacists to get to know the patients more.'* (GP 3, I)

## DISCUSSION

### Summary

By comparing the simultaneous introduction of three non-medical roles this study has highlighted key operational and organisational factors that broadly apply when considering any skill-mix

change in general practice beyond the specific roles investigated. The findings show that introducing new roles has both intended and unintended consequences. In particular, ambiguity on the purpose and place of new roles in general practice and the challenges associated with role definition and professional boundaries impacted on the degree to which roles were assimilated in this setting. Adapting to the general practice context was demanding for stakeholders across all roles with challenges around risk management, training–practice gaps, and managing expectations. Lastly, demonstrating the impact of the roles was difficult with implications for the future retention of roles.

**Strengths and limitations**

This study focused on the perspectives of service and training leads, host practice staff, and role holders, and, therefore, the main study limitation was the missing patient perspective on new roles. The number of GP host staff in the study was relatively low, which could have limited conclusions, however the views of these GP participants varied and may be reflective of wider GP experiences in the context of new roles. Evidence on the impact of roles is not included; the aim was to investigate how roles were being implemented rather than to conduct an outcome evaluation. In any case, the study highlighted the difficulty in measuring outcomes associated with new roles, in particular the goal of releasing GP time.

The study's key strength was the in-depth, in-context, multistakeholder comparison of the introduction of three non-medical roles in general practice, informed by an extensive literature review. It extracted broad learning about the complexity of skill-mix change in practice to inform stakeholder dialogue, debate, and decision-making when considering skill-mix changes.

**Comparison with existing literature**

This study supports research that emphasises the importance of robust evaluation of outcomes associated with new roles.[9,31] It extends this research by emphasising the disconnect between the many possible goals of skill-mix changes such as filling GP gaps; releasing GP time; improving patient outcomes, satisfaction, choice, access and safety; increasing staff wellbeing; providing higher-quality care and achieving cost-effectiveness; and the ability to demonstrate such impacts. In particular it highlights the need for a mechanism to capture changes in GP workload (though some recent work in this area is promising).[32–34]

While tensions at the professional boundary are common,[18–35,36] the present study highlights that ambiguous stakeholder perceptions about the function, scope, and place of new roles in general practice affect whether and how roles achieve their aims and consequently integrate (or not). It also underlines the need for GP staff to be involved in developing roles appropriate to context.

Education and training affects the feasibility of skill-mix change[37] and how new role professionals manage uncertainty in primary care settings is a previously identified concern.[19,24] This study adds to this by showing the importance of closing the training–practice gap with preparation tailored to the general practice context. There is wide literature on managing uncertainty in healthcare contexts involving different conceptual models, however it is recognised that general practice is characterised by the presentation of undifferentiated and wide-ranging problems, meaning trainee and qualified GPs need to develop strong skills in dealing with uncertainty and risk.[38,39] The issues raised by stakeholders in this study about adequately preparing new roles professionals to manage risk in general practice speak to the tension between how professionals' previous experience and potentially more protocol-driven training maps on to the often 'unpredictable' setting of general practice. If unaddressed, this may be a significant barrier to the sustainability of new professional roles in general practice. In particular, there is a crucial need for training leads and general practice staff (with the time and skills for adequate on-the-job supervision) to help role holders develop appropriate risk-management skills over time.[40]

Skill-mix change needs effort to implement and maintain.[37] However this study underlines that change leaders need to actively manage the expectations of practice staff and role holders to minimise the unintended consequences of introducing new roles, such as duplication of work or inappropriate utilisation of skill sets. In particular, time for meaningful communication and engagement between stakeholders before introducing roles is essential.

Of all the roles investigated, the role of the PA faced the greatest degree of scepticism from general practice staff and confidence to invest in it was not strong among the practices in this study. Over and above the lack of regulation that is a known

barrier to their integration,[18,19] identifying PAs' distinctive contribution to general practice was challenging. APs occupied a more recognised position, but in the absence of any previously peer-reviewed literature on the multiprofessional AP role in general practice, this study was the first to offer a glimpse into how APs (from nursing, physiotherapy, and paramedic backgrounds) may be working differently from one another and crafting their roles to suit the particular general practice context. While existing literature recognises the challenges about funding and training PPs in general practice,[22,25] this study highlights a specific need for PPs to have appropriate risk-management preparation.

### Implications for research and practice

Longer-term economic impact studies of new roles are required, including whether role changes are meeting patients' needs,[41] and identifying the optimal skill mix appropriate to organisational goals in different contexts. The financial cost of employing new role professionals against evidence of their value and contribution in general practice needs to be considered, since the very initiatives aimed at alleviating pressure may paradoxically place increased strain on staff, at least initially, and mean that GPs incur extra workload in supervision or mentoring.

If new roles are to integrate into general practice, they fundamentally need to align with its goals. As the scope of roles may vary this will require practices to identify what they need and plan accordingly. Improved dialogue between training organisations and general practice could facilitate this process, helping to set realistic expectations, harness the commitment of individual practices, and prepare them to support practitioner training.


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### Ethical approval

This study was approved by a University of Manchester Research Ethics Committee (reference number: 1168).

### Provenance

Freely submitted; externally peer reviewed.

### Competing interests

The authors have declared there no competing interests.

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